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The Effect Of Production Management Course On The Self-Efficacy Of Employees

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Abstract

Producing fast and accurate solutions effects efficiency of process in business. Thus, organizations need employees who have high self-efficacy. In the production management course, since various solution methods for the problems encountered in manufacturing and service industries are presented, the course contributes to sources which develop the self-efficacy. Therefore, this study aims to measure the effects of production management course on the self-efficacy of employees graduated from the Department of Business Administration. A survey was conducted to collect data. Factors of the self-efficacy and production management course were examined by statistical analysis. As a result, it was obtained that the factor of production management course explained 24 % and 17 % of variances of the self-efficacy factors.

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Keywords: Production Management, Production Management Course, Self-efficacy.

1. Introduction

Production Management is a function that combines production resources to product goods and services as quality demanded with minimum cost in the shortest time. Operational achievement of this function depends on working in coordination with marketing, finance, management and like these functions. Human resource comes to

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forefront as the basic requirement in ensuring this coordination and synergy. In order to achieve their corporate aims, organizations target to employ the employees responsible and entrepreneurs. On the operational and management level, the fast and accurate decisions taken by these employees affect many production factors such as cost, efficiency, flexibility. Thus, the attitudes toward work of employees are followed by production management.

One of the concepts that shape the attitudes toward work of employees is self-efficacy. The self-efficacy is one's belief to complete task with one's own ability (Bandura, 1977). This concept has positive effects on motivation but it is not itself of motivation (Snyder & Lopez, 2002). In addition, self-efficacy, as a measure of a person's mental capacity, separates from other motivation elements such as locus of control, self-concept, and outcome expectancy (Zimmerman, 2000).

The general self-efficacy scale is a tool used extensively in different fields (Sherer, et al., 1982; Schwarzer, et al., 1997; Chen, et al., 2001). Furthermore, there are also some self-efficacy scales in the literature for a particular field or a specific situation. Computer self-efficacy scale (Compeau & Higgins, 1995; Igbaria & Iivari, 1995), Internet self-efficacy scale (Torkzadeh, 2001; Hsu, et al., 2004), academic self-efficacy scale (Zimmerman, et al., 1992; Bandura, et al., 1996), literacy self-efficacy scale (Kurbanoglu et al., 2006), mathematics self-efficacy scale (Betz & Hackett, 1983) were developed for related fields directly.

The self-efficacy determines task finishing effort, interest, persistence and degree of difficulty of the chosen target (Gist, 1987). The relationship between the performance and the self-efficacy thanks to the dominant effect on the task timing and task difficulty make the self-efficacy worth consider by production management (Beattie, et al., 2014).

People with higher self-efficacy take a leading role in the entrepreneurship process (Mohd, et al., 2014; Cetin, 2011). This condition is consistent with the targets of production management course. The course provides that the students experience problems that they will encounter in the future, and the students learn the techniques to solve these problems. Therefore, the production management course contributes to sources which develop the self-efficacy. These sources are successful experiences, vicariously experiences, verbal persuasion, physiological and emotional state (Bandura, 1994).

The effect of the production management course on the self-efficacy of the students who have not yet graduated from the Department of Business Administration, and significant correlation between them was identified with a survey conducted earlier (Aka & Akyuz, 2014). However, in this paper, the effect of production management course on the self-efficacy of employees graduated from the Department of Business Administration was examined. Section 2 states the statistical techniques used, and the results obtained is presented in Section 3. As conclusion, Section 4 includes some evaluations in accordance with these results.

2. Methods And Sample

In the study, a survey consisting of 25 questions was designed. The survey consists of three parts. In the first part, there are questions of production management course, and in the second part, there are questions of the general self-efficacy scale. The Five-point Likert scale was used for these two parts. The third part includes demographic characteristics. The questions of production management course were designed to see benefits of theoretical knowledge and methods presented in the course to employees. The general self-efficacy scale adapted to Turkish by Yildirim & Ilhan (2010) was utilized for questions of self-efficacy. Demographic characteristics in the last section consist of the following elements: position, sector, gender, and age.

The survey was performed on total 111 people, including 59 women and 52 men taken the production management course. These people work as manager, experts, technical staff, academician, and consultant in different sectors such as construction, automotive, food, banking, finance, aviation, tourism, education, and public. In addition, the age distribution of employees is different. Groups generated according to demographic characteristics and, the rates in the sample of these groups are included in Table1.

Table1. The groups of demographic characteristics

Demographic Characteristics							
Gender		Sector		Position		Age	
Groups	Rates (%)	Groups	Rates (%)	Groups	Rates (%)	Groups	Rates (%)
Men	53.2	Service	72.0	Manager	21.6	23-26	32.7
Women	46.8	Manufacturing	28.0	Expert	24.3	27-30	43.6
				Employee	44.1	31-43	23.6

3. Statistical Analysis

Statistical analysis consists of three main stages. Firstly, the reliability analysis was applied on all variables. In second stage, it is provided that collection of variables which has positive and appropriate relationship level through factor analysis. The tests are listed below in the last stage:

- Correlation analysis: To determine the level of relationship between factors.
- T test: To show the effects of gender and sector on the factors.
- One-Way ANOVA: To show the effect of position and age on the factors
- Regression analysis: To determine the effect of the operation management course on the factors of the self-efficacy.

4. Results

A total of 25 variables was included in reliability analysis and correlations of 9 variables were found to be negative. After these variables were removed, the analysis was carried out with remaining 16 variables. As a result of reliability analysis, Cronbach's alpha was 0.883. Then, varimax factor analysis was applied to variables collected under a single factor, and a three-factor structure was obtained. The structure obtained by use of factor analysis is shown in Table 2. Variables of production management course are collected under a single factor. Furthermore, variables of the self-efficacy generate two factor structure as "initiation-termination (INTE)" and "sustain-insistence (SUSIN)". Eigenvalues of the factors are larger than 1 and significant at the 0.01 level. Significant and moderate relationships between the factors are shown in Table 3. The factors' explanation rate of total variance is upper than 60%.

Table 2. Factors obtained by factor analysis and their structural values

VARIABLES		The Factor of Production Management Course (PMC)	The Factors of Self-Efficacy	
			Sustain-Insistence (SUSIN)	Initiation-Termination (INTE)
Eigenvalues		3.570	3.246	2.880
Explanation rates of variances		22.310	20.286	18.001
KMO Bartlett's Test for Factors	KMO	0.808	0.707	0.732
	X^2	334.502	128.190	227.801
	p	p=0.000<0.05	p =0.000<0.05	p=0.000<0.05
General KMO Bartlett's Test		KMO=0.829 X^2=854.778 p=0.000<0.05		

Table 3. The correlation between factors

Correlation	PMC	SUSIN	INTE
PMC	1	0.498**	0.422**
SUSIN		1	0.551**
INTE			1

** Correlation is significant at the 0.01 level (2 tailed)

The gender, one of demographic characteristics, consists of two groups. Therefore, while variance analysis was used for other characteristics, t-test was utilized to see the effect of gender on factors. According to results seen in Table 4, the gender affects only the factor of production management course.

Table 4. The effects of gender on the factors

Factors	Gender		t	p
	Men	Women		
PMC	3.593	3.176	3.108	0.002*
SURIR (SUSIN)	4.005	3.869	1.007	0.316
BASSO (INTE)	3.801	3.679	0.904	0.368

* Correlation is significant at the 0.05 level (2-tailed)

It was identified that the age and the variable, the members of demographic characteristics, had no effect on the factors. Like gender, sector affects the factor of production management course and sustain-insistence factor. Table 5 includes the relationship between sector and factors.

Table 5. The effects of sector on the factors

Factors	Sectors		t	p
	Service	Manufacturing		
PMC	3.255	3.801	-3.588	0.001**
SURIR (SUSIN)	3.856	4.214	-2.391	0.019*
BASSO (INTE)	3.643	3.940	-1.935	0.056

**Correlation is significant at the 0.01 level (2-tailed), * Correlation is significant at the 0.05 level (2-tailed)

The effects of production management course on the factors of self-efficacy, which is dependent variable, were observed by regression analysis. As seen in Table 6, the model is significant. 24% and 17% of the variance of sustain-insistence and initiation-termination, self-efficacy factors, respectively, are explained by the factor of production management course.

Table 6. The effect of production management course on the factors of self-efficacy

Independent	SURIR (SUSIN)			BASSO(INTE)		
Variables	β	t	p	B	t	p
PMC	0.498	5.948	0.000	0.422	4.819	0.000
R^2		0.248			0.171	
F		35.380			23.226	
p		0.000			0.000	

5. Conclusion

This study is the continuation of the paper that research the effect of production management course on the self-efficacy of the students who have not yet graduated from the Department of Business Administration. In previous study, a significant correlation was identified between production management course and the self-efficacy of students taking the course (Aka & Akyuz, 2014). In this study, the effects of knowledge and methods presented in production management course on the self-efficacy of employees graduated were examined. Thus, survey of previous study was revised and, applied on employees graduated from the Department of Business Administration.

A total of 25 variables was used in the survey. Because of reliability analysis, 9 variables with negative correlation level were removed. In this case, Cronbach's Alpha value is 0.883 and, the model is reliable. Then, three-factor structure was obtained by factor analysis. While the variables of production management course were collected in two factors as "receptivity - predisposition" and "implementation-openness to development", these variables were collected in a factor in this research. Variables of receptivity – predisposition factor are concerned with approach of students to course during presentation stage. Moreover, implementation-openness to development factor consists of variables that measure the stage of implementation of techniques learned in course. Since only the stage of implementation was examined in this study, aggregation of variables related to production management course under a factor is significant. After that, moderate, significant, and close relationships between factors were also found through correlation analysis.

The effects of demographic characteristics on the factors were examined with t-test and one-way ANOVA. It was identified that age and position does not affect the factors. Nevertheless, gender affects only the factor of production

management course. Gender does not make a difference on self-efficacy factors. In addition, sector affects the factor of production management course and the sustain-insistence factor. Average of the manufacturing sector is higher than the service sector. No effect of sector on the initiation-termination factor was observed. It is perceived that production management course is mainly for the manufacturing sector. In fact, the production management covers all manufacturing and service systems. From the results of analysis obtained from the research conducted according to sector and gender, a necessity to study on these two issues arises.

Finally, the factor of production management course explains 24 % and 17 % of variances of the self-efficacy factors. There are significant correlations between factors. The production management course affects the self-efficacy of employees graduated from the Department of Business Administration. This case corresponds with the targets which production management course wants to achieve.

References

Aka, S., & Akyuz, G. (2014). Uretim yonetimi dersinin isletme bolumu ogrencileri ozyeterlilikleri uzerine etkisi. 13. Ulusal Isletmecilik Kongresi, 8-10 Mayis 2014, Antalya, Turkey, 1, 315-321.

Bandurra, A. (1977). Self-efficacy: Toward a Unifying Theory of Behavioral Change. *Psycological Review*, *84*(2), 91-215.

Bandura, A. (1994). Self-Efficacy. *Encyclopedia of human behavior*, *4*, 71-81.

Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli C. (1996). Multifaceted Impact of Self-Efficacy Beliefs on Academic Functioning. *Child Development*, *67*(3), 1206-1222.

Beattie, S., Fakehy, M., & Woodman, T. (2014). Examining the moderating effects of time on task and task complexity on the within person self-efficacy and performance relationship. *Psychology of Sport and Exercise*, *15*, 605-610.

Betz, N. B., & Hackett G. (1983). The relationship of mathematics self-efficacy expectations to the selection of science-based college majors. *Journal of Vocational Behavior*, *23*(3), 329-345.

Cetin, F. (2011). Orgut Ici Girisimcilikte Oz Yeterlilik Algisi ve Kontrol Odaginin Rolu. *Business and Economics Research Journal, 2*(3), 69-85.

Chen, G., Gully, S. M., & Eden, D. (2001). Validation of a New General Self-Efficacy Scale. *Organizational Research Methods*, *4*(1), 62-83.

Compeau, D. R., & Higgins, C. A. (1995). Computer Self-Efficacy: Development of a Measure and Initial Test. *MIS Quarterly*, *19*(2), 189-211.

Gist, M. E. (1987). Self-Efficacy: Implications for Organizational Behavior and Human Resource Management. *Academy of Management Review*. *12*(3), 472-485.

Hsu, M., Hsu, H., Chiu, C., & Chiu, M. (2004). Internet self-efficacy and electronic service acceptance. *Decision Support Systems*, *38*(3), 369-381.

Igbaria, M., & Iivari, J. (1995). The effects of self-efficacy on computer usage, *Omega*, *23*(6), 587-605.

Kurbanoglu, S.S., Akkoyunlu, B., & Umay, A. (2006). Developing the information literacy self-efficacy scale. *Journal of Documentation*, *62*(6), 730-743.

Mohd, R., Kiranab, K., Kamaruddina, B. H., Zainuddina, A., & Ghazalia, M. C. (2014). The Mediatory Effect of Self-Efficacy on the Relationship between Religious Values and Entrepreneurial Orientations: A Case of Malay Owner Managers of SMEs in Manufacturing Industry. *Procedia - Social and Behavioral Sciences*, *130*, 96-104.

Schwarzer, R., Babler, J., Kwiatek, P., Schroder K., & Zhang, J. X. (1997). The Assessment of Optimistic Self-beliefs: Comparison of the German, Spanish, and Chinese Versions of the General Self-efficacy Scale. Applied Psychology, *46*(1), 69-88.

Sherer, M.; Maddux, J. E., Mercandante, B., Dunn, S., Jacobs, B., & Rogers, R. W. (1982).The Self-Efficacy Scale: Construction and Validatio. *Psychological Reports*, *51*, 663-671.

Snyder, C. R., & Lopez S. (2002). *Handbook of Positive Psychology*, Oxford University Press US, s.278.

Torkzadeh, G., & Dyke, T.P.V. (2001). Development and validation of an Internet self-efficacy scale. *Behaviour and Information Technology*, *20*(4), 275-280.

Yildirim, F. & Ilhan, I. (2010). Genel ozyeterlilik olcegi Turkce formunun gecerlilik ve guvenilirlik calismasi. *Turk Psikiyatri Dergisi*, *21*(4), 301-308.

Zimmerman, B., Bandura, A., & Pons, M. M. (1992). Self-Motivation for Academic Attainment: The Role of Self-Efficacy Beliefs and Personal Goal Setting. *American Educational Research*, *29*(3), 663-676.

Zimmerman, B. J. (2000). Self-Efficacy: An Essential Motive to Learn. *Contemporary Educational Psychology*, *25*, 82-91.